

# इंटरनेट

# मानक

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IS 3215 (1991): Engineers' drawing instruments, needle points [PGD 22: Educational Instruments and Equipment]



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IS 3215 : 1991  
REAFFIRMED

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भारतीय मानक  
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( पहला पुनरीक्षण )

*Indian Standard*

ENGINEERS' DRAWING INSTRUMENTS —  
NEEDLE POINTS — SPECIFICATION

( *First Revision* )

UDC 744'342'5 : 686'886

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BUREAU OF INDIAN STANDARDS  
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Price Group 1

## FOREWORD

This Indian Standard ( First Revision ) was adopted by the Bureau of Indian Standards, after the draft finalized by the Optical and Mathematical Instruments Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

Needle point is a drawing instrument accessory used by draughtsmen and engineers along with half set of compasses or with the handle for use as pricker.

The standard was originally published in 1965. This revision is based on further experience gained in the manufacture of drawing instruments and other developments in this field. The main modifications are:

- a) Tolerances on important dimensions and mating parts have been specified.
- b) Dimensions of needle point fixing shanks have been modified from 3 mm to 3.5 and 4 mm.
- c) Overall length of needle points have been modified from 55 mm approx to  $57 \pm 0.5$  mm and an additional size of  $41 \pm 0.5$  mm has been included.

In the preparation of this standard considerable assistance has been derived from DIN 58512-1976 '( Prazision-Reisszeuge ( P ) Spitzeneinsatze ( divider part ) ' issued by the Deutsches Normenausschu B Zeichnungswesen ( NZ ) im DIN.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 ' Rules for rounding off numerical values ( revised )'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**AMENDMENT NO. 1 OCTOBER 1991**  
**TO**  
**IS 3215 : 1991 ENGINEERS' DRAWING**  
**INSTRUMENTS — NEEDLE POINTS — SPECIFICATION**  
*( First Revision )*

( Page 1, Fig. 1 ) — Insert the following table under Fig. 1 :

<i>d</i>	<i>l<sub>1</sub></i>	<i>l<sub>2</sub></i>	<i>l<sub>3</sub></i>	<i>l<sub>4</sub></i>	<i>l<sub>5</sub></i>
-0.01	± 0.5	± 0.5	± 0.5	0	+ 0.3
-0.028	.			-0.3	0
3.5	32	9	41	3.3	5.7
4	45	12	57	4.8	7.2

( LMD 20 )

# Indian Standard

## ENGINEERS' DRAWING INSTRUMENTS — NEEDLE POINTS — SPECIFICATION

( First Revision )

### 1 SCOPE

This standard covers the requirements of needle points of Type A and Type B for engineers' drawing instruments.

### 2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

IS No.	Title
1068 : 1985	Electroplated coatings of nickel plus chromium and copper plus nickel plus chromium on iron and steel ( <i>second revision</i> )
2500 ( Part 1 ) : 1973	Sampling inspection tables: Part 1 Inspection by attributes and by count of defects ( <i>first revision</i> )
3216 : 1989	Engineers' drawing instruments, needles ( <i>first revision</i> )
3222 ( Part 1 ) : 1989	Instruments screws: Part 1 Fasteners for drawing instruments ( <i>first revision</i> )

### 3 MATERIAL

The material for manufacture of needle points shall be rolled, drawn or cast brass ( B ), nickel silver ( Ns ) or stainless steel ( Ss ).

### 4 DIMENSIONS

4.0 The dimensions for needle points shall be as shown in Fig. 1.

4.1 The tolerance on interchangeable dimensions shall be as shown in Fig. 1 and the mating parts shall have a slide fit and shall be capable of being locked tight with the locking screw.

4.2 The figure is intended only to illustrate the dimensions and the design detail is left to the discretion of manufacturer so long as the specified dimensions are maintained.

### 5 DESIGNATION

Needle points shall be designated by the type, number of this standard and material.

*Example :*

Needle point Type A made of nickel silver ( Ns ) complete with needle and screw shall be designated as:

Needle Point A IS 3215 — Ns

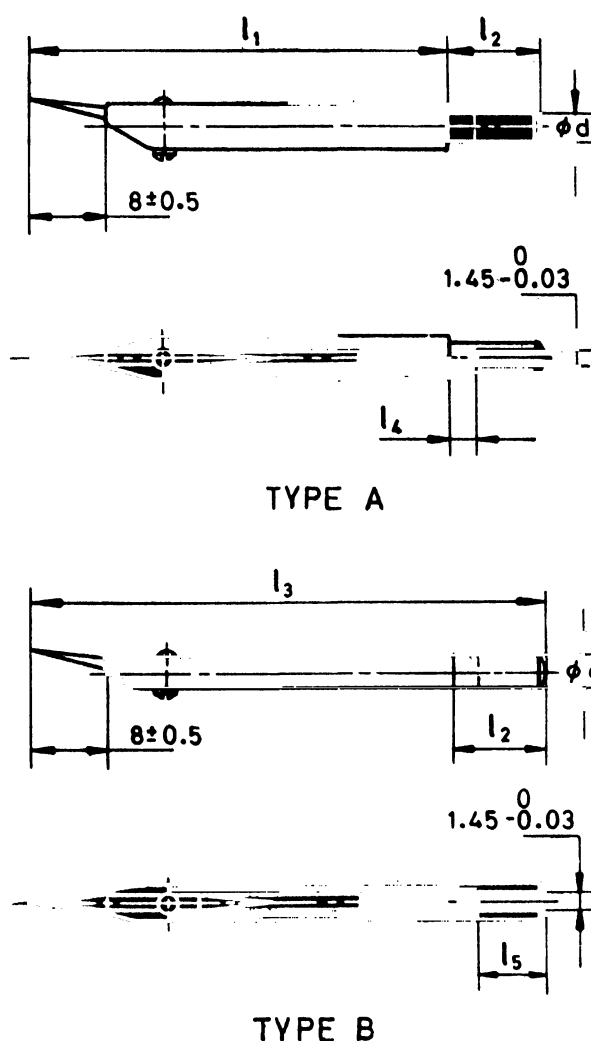


FIG. 1 DIMENSIONS FOR NEEDLE POINTS

### 6 GENERAL REQUIREMENTS

Needle points shall have an arrangement for fixing or removing the needles conveniently.

### 7 WORKMANSHIP AND FINISH

7.1 Needle points shall be finished dull or bright.

7.1.1 When needle points are made from brass, they shall be chromium plated to service Grade No. 2 according to IS 1068 : 1985.

7.1.2 When needle points are made from nickel silver or stainless steel, they shall be polished and buffed.

## **IS 3215 : 1991**

### **8 NEEDLES**

The needles shall conform to the requirements as specified in IS 3216 : 1989.

### **9 SCREWS**

The different screws used with needle points shall conform to the requirements as specified in IS 3222 ( Part 1 ) : 1989.

### **10 TEST**

Needle points shall be tested for conformity with the requirements as specified in 4.

### **11 SAMPLING**

#### **11.1 Lot**

In a consignment all the needle points of the same type and size, manufactured from same material under similar conditions of production shall be grouped together to constitute a lot.

**11.2** Unless otherwise agreed to between the supplier and the purchaser, the procedure given in IS 2500 ( Part 1 ) : 1973 shall be followed for sampling inspection. The inspection level, acceptable quality level ( AQL ) and type of sampling plan to be followed for various characteristics shall be as given in 11.2.1 and 11.2.2.

**11.2.1** For dimensions, designation, general requirements, workmanship and finish, a single sampling plan with inspection level IV and AQL of 2.5 percent as given in Tables 1 and 2 of IS 2500 ( Part 1 ) : 1973 shall be followed.

**11.2.2** For needles 8 and screws 9 a single sampling plan with inspection level II and AQL of 2.5 percent as given in Tables 1 and 2 of IS 2500 ( Part 1 ) : 1973 shall be followed.

### **12 MARKING**

Needle points shall be marked with indication of the source of manufacturer at a suitable place.

#### **12.1 Standard Mark**

The product may also be marked with the Standard Mark.

### **13 PACKING**

Needle points shall be first wrapped in waxed paper and then packed in a suitable carton.

**13.1** Needle points may also be supplied as a part of an instruments set in which case the complete set may be supplied in a suitable box.



### **Standard Mark**

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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